

APPENDIX 6

MONITORING AND IMPLEMENTATION

LANDS AND REALTY AND MINERALS

The Pecos District will develop maps that display the land use conflicts within the Planning Area. These maps will be used to aid implementation decisions so that these decisions will be in conformance to land use plans.

In addition to monitoring measure described in the following sections of this appendix, oil and gas development is monitored by BLM personnel to ensure conformance with land use plans, lease stipulations, and conditions of approval for individual wells.

VEGETATION, LIVESTOCK GRAZING, AND STANDARDS FOR PUBLIC LAND HEALTH

Monitoring

Vegetation

Standard protocol for permanent Rangeland Monitoring Study plots will be followed. These study plots include a photo of the 9 square foot plot, photos of each of the three 100-pace transect lines, pace-point data for ground cover and vegetative composition, clip and weigh data for annual vegetative production, and a transect to measure utilization of both overall and key forage species. This data is used to determine trends in cover and composition and to determine a range condition rating. In addition, Robel Pole measurements will be conducted to assess habitat components for the lesser prairie-chicken (see also Wildlife section).

A typical study plot consists of:

1. A 3-foot by 3-foot photo plot. This also serves as the starting point for the pace-point transects.
2. Three 100 pace-point transects. At each point (two steps) ground cover is recorded, either bare ground, litter, small rock (< 2 inches), large rock (> 2 inches), or basal hit on perennial plant. A basal hit on an annual plant is recorded as litter. If a basal hit is not recorded, the nearest perennial plant is also recorded. This gives percent ground cover and percent composition of vegetative component.
3. Three 10-plot clip and weight hoops. At every tenth pace, a hoop is dropped to one side of the transect line and current year's growth is clipped and weighed. This gives annual pounds of vegetative production.
4. One utilization transect. This determines the percent of annual production that has been utilized. Utilization is assessed using growth within a small cage as no use and is rated individually on several different key forage grasses as well as an overall reading on all grasses. Utilization classes include:
 - No use (0-5 percent) – Current year's seed stalks and leaves intact
 - Slight (6-20 percent) – Key forage species slightly used, current year's seed stalks little disturbed

- Light (21-40 percent) – Range appears skimmed or grazed in patches, 60-80 percent of current year's seed stalks intact
- Moderate (41-60 percent) – Range appears entirely covered, 15-25 percent of current year's seed stalks intact, no more than 10 percent of low forage plants used
- Heavy (61-80 percent) – Range has appearance of complete search, less than 10 percent of current year's seed stalks intact, more than 10 percent of low forage plants used
- Severe (81-100 percent) – Range has mown appearance, no evidence of current year's seed stalks, key plants completed used.

Within a 10-year period, each grazing allotment with studies is scheduled to have a "three line" year completed during three different years. At the end of this 10-year period, the data is summarized and any necessary adjustments to the grazing permit/lease are made. Changes in funding, staffing, or priorities could speed up or slow down this schedule.

For brush control treatments, a 100-foot canopy intercept transect is completed both the year before and the year following treatment. This gives a percent reduction in brush canopy and is used to assess the success of the treatment.

Standards for Public Land Health

There are different indicators that provide a measure of resource quality and functioning condition upon which the standards for public land health would be assessed. These indicators describe attributes of soil and site stability, watershed function, and biotic (plant and animal) integrity. The

assessment process is a combination of qualitative and quantitative techniques that use observations and measurements made in the field to assign numeric values or rankings to each indicator. The indicators are rated relative to the degree of departure from what a healthy site would look like. For instance, if a healthy site is described as having no or few rills and the assessed site has few rills, then it is rated as none to slight departure. Conversely, if the assessed site has many rills, the site is rated as having severe departure. Once each of these indicators has been rated, these rankings are combined to determine soil and site stability, watershed function, and biotic integrity. Some indicators are used in all three of these categories, some in two of the three, and some in only one specific category. The Carlsbad Field Office uses 21 different indicators, while the Roswell Field Office uses 22 indicators.

The assessment process is based on the ecological site description and is done on a watershed basis. Both offices have schedules in place to determine the order in which each watershed area is assessed. The indicators are rated against the soil, vegetation, and animals described as typically present in that ecological site. During the rating process, site capability and current weather patterns are considered. Site capability is a measure of expected conditions such as degree of erosion or pounds per acre of vegetative production. If a site has been degraded over time, from whatever type of disturbance, it would be rated based on its current capacity. Similarly, if a site has experienced abnormal precipitation, either very dry or very wet, then these weather conditions would be factored into the indicator ratings.

The assessments are scheduled by watershed, with all assessments within one being completed before moving to

an adjoining watershed. Based on the current schedule, all allotments within the planning area should have an assessment completed by FY 2012. Changes in funding, staffing, or priorities could speed up or slow down this schedule.

Livestock Grazing

The methods described above under Vegetation are used to monitor effects of livestock grazing. In addition, grazing permittees/lessees submit actual use records for each grazing year. The data can be used to determine a carrying capacity in three ways, from the amount of annual forage production, from the amount of AUMs available based on range condition, and from actual use versus utilization.

Within a 10-year period, each grazing allotment with studies is scheduled to have a "three line" year completed during three different years. At the end of this 10-year period, the data is summarized and any necessary adjustments to the grazing permit/lease are made. Generally, the monitoring schedule precedes the permit/lease expiration schedule, so monitoring data is summarized just prior to permit/lease expiration and necessary adjustments can be made as the permit/lease is renewed.

Implementation

Should monitoring indicate a change is necessary, it can be accomplished by vegetative treatment or by modifying the grazing permit/lease.

Vegetation

Changes to the vegetative community, whether by mechanical, chemical, or prescribed fire methods, are generally accomplished 2 years after data indicate a change is warranted. Project planning

typically takes 2 years from start to finish, so if monitoring in Fiscal Year 2007 indicates chemical brush control is needed to achieve the desired plant community, then the treatment will occur in Fiscal Year 2009. As with monitoring schedules, funding, staffing, and changing priorities can speed up or slow down implementation.

Livestock Grazing

Changes in livestock grazing practices, be it adjusting the permit or modifying a grazing scheme, are put into place as soon as monitoring data indicates the change is needed. Generally, the third year of monitoring data is collected in the fall and winter prior to permit/lease expiration at the end of February, so if changes are necessary they can be included in the new permit/lease.

Standards for Public Land Health

By regulation, implementation of livestock grazing guidelines must occur as soon as practicable but not later than the start of the next grazing year after determining that existing grazing management practices or levels of use are significant factors in failing to achieve one or more Standards. Should an action other than livestock grazing be the significant factor in failing to achieve one or more Standards, then appropriate action will be taken.

Wildlife

A number of studies will be used to monitor the effectiveness of land use decisions and implementation of the plan. Monitoring studies will include the following.

Lesser Prairie-Chicken

Lek Surveys: Surveys of lesser prairie chicken lek locations and level of activity will be surveyed during the primary

breeding months of March through May. Surveys will consist of a combination of counts of birds using selected lek sites and roadside surveys. Methods used for both survey techniques will follow established protocols and will be coordinated with other cooperating entities conducting surveys in the area. Additional systematic searches will be conducted to determine if leks or breeding activity is occurring in areas where leks are not known to occur. Surveys will also be conducted in the fall in an effort to document new lek sites and distribution of birds.

The lek counts are designed to track the number of birds using different lek sites and monitor movement of birds between adjacent lek sites over time. The survey routes will assist in obtaining trends in numbers of leks and distribution of leks over a fairly broad area. These studies will assist in monitoring the general trends in the breeding populations, documenting the distribution of breeding birds during the breeding season, determining key areas important to lesser prairie chicken, monitoring effects of land use management on lesser prairie chicken populations and distribution.

Robel Vegetation Studies: Residual vegetation will be measured prior to the lesser prairie chicken breeding season using the Robel pole methodology (Robel, et al. 1970). Study sites are linked to areas with known lek sites and lesser prairie chicken occurrence. If all lek sites are not surveyed each year, the Robel studies will be conducted near those sites that are surveyed in a given year. These studies will assess the height of cover that exists just prior to the breeding season. This will be an indicator of the availability of adequate cover for lesser prairie chicken nesting and will be used as one measure in managing the level of grazing use in a given pasture.

Vegetation Trend and Utilization

Studies: Trends in key vegetation species and level of vegetation utilized by grazing animal will be monitored in cooperation with the rangeland management program. These data will be important in assessing the status of vegetative conditions and level of use that is occurring by grazing animals.

These studies will be used to monitor such things as vegetative conditions, level of vegetation use, and trends in lesser prairie chicken breeding numbers and distribution. These data will assist in managing activities that affect vegetation condition and lesser prairie chicken distribution and numbers including grazing administration, locations or timing for rights-of-way or oil and gas development, and vegetation management decisions.

Sand Dune Lizard

Distribution Surveys and Monitoring:

Sand dune lizard distribution will be determined through surveys using established scientific protocol. Continued presence of sand dune lizard in known locations will be monitored on a regular, scheduled basis. Surveys to determine or monitor presence of sand dune lizard will be important in determining where or how surface disturbing activities may be authorized. They will also assist in assessing the effectiveness of authorizations and mitigating measures in protecting sand dune lizard habitats and populations.

Habitat Surveys and Monitoring: The suitability of habitat, in conjunction with the location of suitable habitat, will be assessed throughout the range of the species in the Planning Area. The status of the suitability of the habitat will also be monitored over time. The criteria for suitability will be determined through consultation with recognized experts on the species. The habitat

surveys and monitoring studies will assist in documenting presence of the species and suitable habitats, assist in making land use decisions that minimize impacts to the species and its habitats, assist in assessing conservation opportunities, especially as it relates to maintaining dispersal corridors and connectivity, and serves as a vehicle for assessing effectiveness of mitigating measures and land use decisions.

Landscape Analyses: A landscape analysis approach will also be used to monitor both the lesser prairie chicken and sand dune lizard. This will utilize geographic information systems (GIS) to display a variety of information important in assessing the status of these species and their habitats. Data would include, but not be limited to, distribution of lesser prairie chicken and sand dune lizard, distribution of vegetation communities, changes in reclamation or disturbance in key habitats, and locations of activities such as roads, rights-of-way, and oil and gas developments. This information will assist in assessing factors important to the status of these species including connectivity of habitats, degree of fragmentation, and trends in habitat conditions and species distribution on a landscape scale.

Recreation And Off-Highway Vehicles

The Roswell Field Office has established fee areas in recreation areas, including OHV areas. Monitoring would be accomplished through Recreation Use Permits and volunteers who help maintain these areas and do visitor monitoring. Electronic monitoring devices like traffic counters are also used to monitor visits to the sites. Monitoring data is collected each month and is made a matter of record at the Roswell Field Office. In the Carlsbad Field Office, monitoring would be accomplished through

Recreation Use Permits and volunteers who help maintain these areas and do visitor monitoring. Electronic monitoring devices like traffic counters are also used to monitor visits to the sites. Monitoring data is collected each month and is made a matter of record at the Carlsbad Field Office.

Implementation of the expansion of existing OHV areas or establishing new OHV areas - unless the monitoring of visitor use demonstrates the public's need and monitoring indicates there would be no conflicts with lesser prairie-chicken and sand dune lizard habitat.

Power Line Removal Credit Program

In order to provide opportunities for expansion of lesser prairie chicken habitat within the Planning Area, applicants for electric power lines could participate in power line removal credit (PLRC). Under this program applicants would be required to remove 1.5 miles of idle power lines (wire and poles) within lesser prairie chicken habitat management unit (CMA, PPA, SSPA and IPA) and habitat type (occupied or suitable/potentially suitable) before receiving authorization to construct 1.0 miles of new power line.

The priority for removing unneeded power lines is, in order, Core Management Area, Primary Population Area, the Habitat Evaluation Areas, Sparse and Scattered Population Area, and Isolated Population Area. Within these management areas, the priority for removing unneeded power lines is, in order, occupied, and suitable habitat. For purposes of this program potentially suitable habitat would be treated as suitable habitat.

Applicants would be able to substitute power line removal in higher priority areas for construction of new power lines in lower priority areas. For

example, 3 miles of power lines removed in occupied habitat within the PPA would meet the requirements for constructing 2 miles of new power lines in suitable habitat within the PPA and lower priority management units. For an illustration of how the priorities would be applied and the credits allocated see the matrices below.

The Habitat Evaluation Areas are included in the matrix because of their importance as potential building blocks

for the expansion of lesser prairie-chicken populations. The Habitat Evaluation Areas which have high potential for reclamation and as habitat for re-establishment of chicken populations would remain as depicted in the matrix below. Those Habitat Evaluation Areas determined to be lacking high conservation value would be managed according to the IPA prescriptions. Criteria for evaluating the Habitat Evaluation Areas can be found in Appendix 8.

REMOVAL/NEW CONSTRUCTION MATRIX

Mgmt Unit	Occupied	Suitable
CMA	R	B
PPA	B	B
HEA	B	B
SSPA	B	B
IPA	B	B
Mgmt Unit	Occupied	Suitable
CMA	N	N
PPA	N	N
HEA	N	R
SSPA	B	B
IPA	B	B

Mgmt Unit	Occupied	Suitable
CMA	N	R
PPA	B	B
HEA	B	B
SSPA	B	B
IPA	B	B
Mgmt Unit	Occupied	Suitable
CMA	N	N
PPA	N	N
HEA	N	N
SSPA	R	B
IPA	B	B

Mgmt Unit	Occupied	Suitable
CMA	N	N
PPA	R	B
HEA	B	B
SSPA	B	B
IPA	B	B
Mgmt Unit	Occupied	Suitable
CMA	N	N
PPA	N	N
HEA	N	N
SSPA	N	R
IPA	B	B

Mgmt Unit	Occupied	Suitable
CMA	N	N
PPA	N	R
HEA	B	B
SSPA	B	B
IPA	B	B
Mgmt Unit	Occupied	Suitable
CMA	N	N
PPA	N	N
HEA	N	N
SSPA	N	N
IPA	R	B

Mgmt Unit	Occupied	Suitable
CMA	N	N
PPA	N	N
HEA	R	B
SSPA	B	B
IPA	B	B
Mgmt Unit	Occupied	Suitable
CMA	N	N
PPA	N	N
HEA	N	N
SSPA	N	N
IPA	N	R

NOTES: R = for every 1.5 miles of idle power lines Removed, 1.0 mile of new power lines could be built in the management unit; B = 1.0 miles of new power line construction could be Built in this management area, N = No credits available and no new power line construction would be authorized.

Credits accrued by removing power lines (wire and poles) are not dependant on surface ownership. Credits accrued by removing power lines on either State or private surface can be used for new construction on BLM managed surface.

Idle power lines removed by an applicant can be counted or "banked" for future consideration providing the

applicant reports the removal to BLM. Applicants may trade, buy or sell credits, providing the applicant reports transactions to BLM. BLM Carlsbad Field Office Realty Program would be the office of record for the PLRC.